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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,796	07/21/2003	Yoshitake Ito	K-2125	2622
32628	7590	10/28/2005	EXAMINER	
KANESAKA BERNER AND PARTNERS LLP SUITE 300, 1700 DIAGONAL RD ALEXANDRIA, VA 22314-2848			RUTLEDGE, DELLA J	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 10/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/622,796

Applicant(s)

ITO, YOSHITAKE

Examiner

D. Rutledge

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-10 and 12-15 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 11 and 16-20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Change of Address

1. A change of address was received on 17 December 2004.

Declaration and Power of Attorney

2. An executed Declaration and Power of Attorney was received on 24 October 2003.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

4. A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

Claims

5. The claims should be reviewed and any idiomatic English must be corrected.

Drawings

6. The drawings are objected to because the empty boxes in Figs. 2, 5, 8A,B, 10, 13 and 14. The boxes must be labeled. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishimura et al. (JP No. 11 – 87225).

Nishimura et al. have solved the same problem the applicant is trying to solve using the same method as the applicant. In Fig. 2, the developing apparatus is shown. The apparatus comprises a supporting an opposed side of the substrate W using the support 11. The method of developing comprising:

Exhausting air from a first peripheral region outside the inner cup 40 (which is the region between the inner cup 40 and the outer cup 50); and then exhausting air from a second region, inside the inner cup 40, during the rinsing process.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 3, 4, 7 - 10 and 12 - 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (JP No. 11 – 87225) in view of Matsuyama et al. (US Pat. No. 6,312,171).

The abstract of the Nishimura et al. reference does not disclose whether the developing process is a spin coating process or how the developing solution is removed from the substrate. Matsuyama et al. discloses the developing method. The substrate is held to

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the holding mechanism by vacuum suction while the developing solution is applied to a spinning substrate. After the developer solution has remained on the substrate for a period of time, the substrate is again rotated to blow the developer solution off the substrate. One of ordinary skill in the art would be motivated to use this common development method as a means to apply the developer solution to the substrate; to prevent the substrate from moving by holding it down by means of suction; and removing the developer solution by spinning the substrate to blow the solution from the substrate. (claims 3,4)

In Fig. 2, Nishimura et al. disclose a first enclosing member 40 around the substrate W and a member to hold the substrate. This holding mechanism as discussed will use vacuum suction. The second enclosure, the chamber (SND1) housing the first enclosure, is best seen in Fig. 1, see SND1. The reference does not, however, disclose a support mechanism that is inside the first enclosing member. Matsuyama using a support mechanism 33 to prevent the opposite side of the substrate from being contaminated by developing solution. One of ordinary skill in the art would be motivated to use such a holding mechanism at for that reason. (claims 7 – 10, 12 – 14)

11. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (JP No. 11 – 87225) in view of Inada (US Pat. No. 6,419,408).

The abstract of the reference does not disclose whether the developing method comprises using varying concentrations of developing solution. Inada states that as a

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substrate is developing the resist is dissolved in the developing solution and the concentration of the developing solution begins to vary. The line width will not be uniform if the concentration of the developing solution varies. To solve the problem, Inada teaches varying the concentration of the developing solution to compensate for a component of the resist dissolving in the developing solution. One of ordinary skill in the art at the time the invention was made would be motivated to use the teaching of Inada with the development method of the Nishimura reference to prevent non-uniform line width.

Allowable Subject Matter

12. Claims 5, 6, 11 and 16 – 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not teach or suggest a method of developing an exposed resist on a substrate in a cup that exhaust the air from a first and second region as claimed and using exhaust amounts claimed.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nagamine (US Pat. No. 6,715,943) discloses air flow arrangements in Figs. 22 – 26; and Yoshihara et al. (US Pub. No. 2003/0044731) discloses adjusting the concentration of a developing solution.

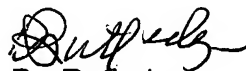
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Response Data

Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. Rutledge whose telephone number is (571) 272-2127. The examiner can normally be reached on Mon - Thurs, 6:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


D. Rutledge
Primary Examiner
Art Unit 2851

dr
10/26/05